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**United States Patent** [19]**Frank**[11] **Patent Number:** **5,457,478**[45] **Date of Patent:** **Oct. 10, 1995**[54] **CONTROL DEVICE**[75] Inventor: **Edward H. Frank**, Portola Valley, Calif.[73] Assignee: **FirstPerson, Inc.**, Mountain View, Calif.[21] Appl. No.: **248,578**[22] Filed: **May 24, 1994**

5,075,558 12/1991 Nakagawa ..... 340/710  
 5,081,534 8/1989 Geiger et al. .... 358/194.1  
 5,086,298 4/1990 Katsu et al. .... 340/825.69  
 5,109,482 4/1992 Bohrmann ..... 395/154  
 5,115,227 5/1992 Keiji ..... 340/710  
 5,146,210 9/1992 Heberle ..... 340/706  
 5,204,768 4/1993 Tsakiris et al. .... 358/194.1

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[63] Continuation of Ser. No. 966,734, Oct. 26, 1992, abandoned.

[51] **Int. Cl.**<sup>6</sup> ..... **G09G 3/02**[52] **U.S. Cl.** ..... **345/158; 345/166; 348/734; 340/825.69; 340/825.72; 359/148; 359/142**[58] **Field of Search** ..... 340/710, 706, 340/825.69, 825.72; 358/194.1, 335; 359/148, 142, 143, 145; 345/156, 157, 158, 169, 162, 166, 163; 348/734[56] **References Cited****U.S. PATENT DOCUMENTS**

4,521,772 1/1983 Lyon ..... 340/710  
 4,623,887 5/1984 Welles, II ..... 340/825.57  
 4,751,505 6/1986 Williams et al. .... 340/710  
 4,796,019 1/1989 Auerbach ..... 345/169  
 4,807,052 2/1989 Amano ..... 340/825.72  
 4,825,209 4/1989 Sasaki et al. .... 340/825.72  
 4,859,995 8/1989 Hansen et al. .... 340/710  
 4,880,967 11/1989 Kwang-Chien ..... 340/710  
 4,935,619 6/1990 Heberle ..... 340/710  
 5,028,919 7/1991 Hidaka ..... 340/825.69

[57] **ABSTRACT**

A control device method and apparatus has application for use in multi-media systems. The multi-media system contains a host computer having a video display, a control device and at least one target device. The target device is any remotely controlled equipment that the user wishes to integrate into the multi-media system. The host computer contains a host system configuration which provides the user the ability to select an operating mode for the control device. The control device operates as an interactive user interface to control a cursor on the host computer video display when the control device is placed in the cursor control mode. The user selects a remote control mode to remotely control the target devices using the control device. The host system configuration also includes learn and computer networking modes. In the learn mode, control data information is entered into the host system configuration for new target devices. In the computer networking mode, the control device operates as a network interface allowing other similarly equipped computers to communicate with the host computer.

**18 Claims, 8 Drawing Sheets**